MISCELLANEOUS PHENOMENA

Mirage off Farallon.—On the afternoon of February 26, 1926, when in vicinity of Piedras Blanco's Light and to north of it, a very noticeable mirage was in effect to the northwestward and inshore. Ships and shoreline were distended in various grotesque shapes, and visibility greatly increased. Heat waves could be seen plainly rising from the water; upper atmosphere exceptionally clear. When below Pigeon Point, the Farallon Islands Light showed above horizon as two distinct lights, one above the other, for an hour, then disappeared, and did not show again until within its limit of visibility. Distance seen 45 miles at pickup.—*Communicated by American S. S. "H. M. Storey," New York to San Pedro.*

Haze off Australian coast.—The haze observed on the 17th, 18th, and 19th of February was caused by the bush fires then raging over hundreds of miles of land in Australia. It was first observed when the Australian coast was over 900 miles distant, and became more dense as we approached the land. The haze was of a reddish color, and on the 19th it completely obliterated the horizon, and gave the sun the appearance of a red ball at noon.—*From report by British S. S. "Tahiti," Papeete to Sydney.*

DETAILS OF THE WEATHER IN THE UNITED STATES

GENERAL CONDITIONS

The weather of the current month was characterized by abnormally high temperature, especially in the Northwest and by temperature above normal elsewhere in the United States, except in New England—see Chart III of this REVIEW.

The warm weather was probably closely related to the atmospheric pressure distribution over the northeastern Pacific and contiguous land areas over which it was considerably below the normal.

Incursions of cold air from high latitudes were, therefore infrequent and of short duration.

Cyclonic storms passing over the Atlantic in the neighborhood of the Canadian Maritime Provinces had a tendency to greatly increase in intensity as in the previous month. The usual details follow.—*A. J. H.*

CYCLONES AND ANTICYCLONES

By W. P. DAY

Twenty low-pressure areas were plotted during the month, seven of which were of the so-called Alberta type. These Alberta storms, however, could generally be traced back across the Pacific Ocean to southeastern Asia. The remaining LOWS moved inland from the Pacific or originated over the South and Southwest. The latter type developed into important storms east of the Mississppi River.

The 15 HIGHS were about equally divided between the oceanic type moving inland from the Pacific and the continental type moving southward from Canada. None of these HIGHS, however, was important.

FREE-AIR SUMMARY

By V. E. JAKL

Free-air temperatures were above normal at all aerological stations, except due west, where they were about normal. (See Table 1.) The excess over normal increased in general from southern to northern stations, but was most pronounced in the northwest, as shown by Drexel and Ellendale. At those stations the departure was between 4 and 5 degrees above normal in about the first 1,000 meters altitude, but diminished thence upward until nearly normal temperatures were recorded above 3,000 meters. Over Broken Arrow, Groesbeck, and Royal Center the departure was about uniform with altitude and was greatest over Broken Arrow. The large excess over normal and its diminution with altitude in the upper levels over Drexel and Ellendale may be attributed to a less than usual frequency of cold waves over these stations, a characteristic of which, over northwestern sections, is to cause inverted lapse rates or at least an approximately isothermal state to considerable altitudes.

Relative humidities, as usually the case with temperatures above normal, were in general below normal. This departure was more especially evident in the upper levels, although departures at no station were pronounced enough to show any significant relation with other free-air conditions.

Free-air resultant winds were of about normal direction, being nearly west at all stations and at practically all altitudes. (See Table 2.) The general tendency, however, was for a slight north component, although over Ellendale the winds were quite decidedly northwest, except that in the lower levels where the positive temperature departure was greatest the winds were west-northwest, instead of the normal northwest direction. In the lower levels at a number of stations, particularly the more southerly, there was a slight south component.

It is significant of the rapid movement of HIGHS and LOWS, which continued from the previous month, that the free-air movement was stronger than normal, and that the resultants not only showed a general west direction, but that wind directions from day to day showed comparatively few exceptions to a west component for all stations and altitudes. Easterly winds in fact were almost entirely absent, only Key West showing pronounced east component to any considerable altitude, and that on only a few days. Resultant velocities were generally above normal throughout the vertical extent of observations at all stations. This was noticeably the case over Due West in the upper levels, where velocities were in excess of the normal as well as greater than those at any other station. Incidentally, Due West has in the upper levels the highest normal velocities for February of all the stations.

An example of some of the high velocities observed during the month is given by the records of the 25th, when the deep LOW centered over Chicago was effective in giving high velocities aloft to stations as remote from the center as Broken Arrow, Due West and Groesbeck, where winds from a general westerly direction ranging from 37 to 44 meters per second were recorded at various altitudes from 1,800 to 5,200 meters. This LOW had its effect on velocities aloft in the United States even after its center had passed east of Newfoundland on the 27th, as shown by observations on that date at Broken Arrow, Drexel, Due West, Ellendale, Madison, and Royal Center. The maximum free-air velocities recorded at these stations are approximately indicated by those reported from the extreme stations, Due West and Ellendale, which ranged from 53 meters per second from the west-northwest at 6,500 meters, to 31 meters per second from the northwest at 4,000 meters, respectively.